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THE RELATIONSHIP BETWEEN SAFETY MANAGEMENT PRACTICES AND SAFETY PERFORMANCE AMONG IIUM LABORATORY STAFFS

By

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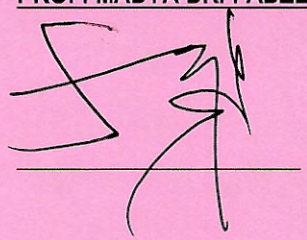

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ABSTRACT

Safety performance reflects the organizational safety outcomes and management commitment towards safety in organization. There are many elements have significant relationship with safety performance which are safety commitment, safety management, safety motivation etc. This study purposely to assess the association between safety management practices and safety performance among IIUM laboratory staffs. Using self-administrative questionnaire, the survey involved 69 employees who are the staff working in OHSAS 18001:2007 & MS1722:2011 certified laboratory. This study applied the purposive sampling for data collection and the raw data was analysed by SPSS version 25. Descriptive analysis, correlation analysis and regression analysis were conducted to fulfil the objective of the study. Correlation analysis revealed moderate relationship and regression analysis shows 20.6% of the variation in the safety management practices explained by safety performance. The findings benefit the management in identifying the correct mechanism and strategies to enhance occupational safety and health issues at the workplace.

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Keywords: OHSAS 18001:2007, MS1722:2011, laboratory staffs, safety management practices, safety performance

ABSTRAK

Prestasi keselamatan menggambarkan tahap keselamatan organisasi dalam sebuah organisasi. Terdapat pelbagai elemen yang mempunyai hubungan yang signifikan dengan prestasi keselamatan; komitment keselamatan, pengurusan keselamatan, motivasi keselamatan dan lain-lain. Kajian ini bertujuan mengkaji hubungan antara amalan pengurusan selamat dengan prestasi keselamatan di kalangan pekerja makmal di UIAM. Kajian ini menggunakan soal selidik yang ditadbir sendiri *(self-admistrative questionnaire)* yang mana ianya melibatkan 69 pekerja makmal yang bekerja di makmal yang telah ditauliah dengan persijilan OHSAS 18001: 2007 dan MS1722:2011. Kajian ini menggunakan persampelan bertujuan *(purposive sampling)* dan data dianalisis dengan menggunakan perisian SPSS versi 25. Analisis deskriptif, analisis korelasi dan analisis regresi diuji untuk memenuhi tujuan kajian. Amalan pengurusan selamat berkolerasi secara sederhana dengan prestasi keselamatan manakala analisis regresi menunjukkan 20.6% variasi dalam amalan pengurusan keselamatan yang dijelaskan oleh prestasi keselamatan. Hasil dapatan kajian ini memberi kelebihan kepada pihak pengurusan dalam identifikasi mekanisma dan strategi yang terbaik bagi meningkatkan isu yang berkaitan dengan keselamatan dan kesihatan di tempat kerja.

Kata Kunci: OHSAS 18001:2007, MS1722:2011, pekerja makmal, amalan pengurusan selamat dan prestasi keselamatan

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LIST OF ABBREVIATIONS

OSH	Occupational Safety and Health
OSHMS	Occupational Safety and Health Management System
OHSAS	Occupational Health and Safety Assessment Series
MS	Malaysia Standard
ILO	International Labour Organization
OSHA	Occupational Safety and Health Act
DOSH	Department of Occupational Safety and Health
ORD NO.	Ordinal Number
MOE	Ministry of Education
IIUM	International Islamic University Malaysia
NADOPOD	Notification of Accident, Dangerous Occurrence, Occupational Poisoning and Occupational Disease
SPSS	Statistical Package for the Social Sciences
RQ	Research Question
RO	Research Objective
TNA	Training Need Analysis
OSHBE	Occupational Safety, Health and Built Environment

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Occupational safety and health (OSH) aims to protect the safety, health and welfare of the employees at the workplace. Alli (2008) describes OSH as science of the anticipation, recognition, evaluation and control of hazards rising in or from the workplace that can cause harm to the health and well-being of employees. OSH is an essential element in an organization to growth employees' performance and moral, and organization financial implication (Ganesh CS & Krishnan R, 2016). A safe working environment guarantees employees' safety and health which benefits organizations productivity and economic efficiency of a country (de Kok, Deijl, & Veldhuis-Van Essen, 2013) whereas unsafe workplace condition will incline to affect the employees' capability, satisfaction and performance.

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OSH at the workplace is a crucial element in management, which have an adverse effect to the employees especially when occupational accidents occurs. According to Fernández-Muñiz, Montes-Peón, & Vázquez-Ordás (2009), occupational accidents affect management's reputation and competitiveness which accidents usually occurred when a person at work in negligence and lack or knowledge of proper practice at the workplace. Hofmann, Burke, & Zohar (2017) mentioned that there are many factors contributes to safety and health issues at the workplace. Based on report of Global Estimates of Occupational Accidents and Work-related Illnesses 2017, occupational accidents may cause 2.78 million deaths every year and 340 million of non-fatal occupational accidents (Hämäläinen, Takala, & Kiat, 2017). These findings obviously

REFERENCES

Abad, J., Lafuente, E., & Vilajosana, J. (2013). An assessment of the OHSAS 18001 certification process: Objective drivers and consequences on safety performance and labour productivity. *Safety Science*, *60*, 47–56. https://doi.org/10.1016/j.ssci.2013.06.011

Abidin, E. Z., & Rasdi, I. (2015). Occupational Safety And Health Management System In Malaysia: Comparison Between OHSAS 18001:2007 AND MS 1722:2011. *International Journal of Public Health and Clinical Sciences*, *2*(June), 23–32.

Aksorn, T., & Hadikusumo, B. H. W. (2008). Measuring effectiveness of safety programmes in the Thai construction industry. *Construction Management and Economics*, *26*(4), 409–421. https://doi.org/10.1080/01446190801918722

Alli, B. O. (2008). *Fundamental principles of occupational health and safety*. *Vasa*. https://doi.org/10.1017/CBO9781107415324.004

Barling, J., Kelloway, E. K., & Iverson, R. D. (2003). High-quality work, job satisfaction, and occupational injuries. *Journal of Applied Psychology*, *88*(2), 276–283. https://doi.org/10.1037/0021-9010.88.2.276

Bayram, M. (2018). The Management Commitment to OHS , Employee Satisfaction and Safety Performance : An Empirical Study The Management Commitment to OHS , Employee Satisfaction and Safety Performance : An Empirical Study. *International Journal of Latest Engineering and Management Research (IJLEMR)*, *03*(07), 63–71.

Bottani, E., Monica, L., & Vignali, G. (2009). Safety management systems: Performance differences between adopters and non-adopters. *Safety Science*, *47*(2), 155–162. https://doi.org/https://doi.org/10.1016/j.ssci.2008.05.001

BSI. (2018). *BS OHSAS 18001 - Occupational Health and Safety Management (OHS)*.

Universiti Utara Malaysia

Retrieved from https://www.bsigroup.com/en-GB/ohsas-18001-occupational-health-and-safety/

Burke, M. J., Sarpy, A. S., Tesluk, P. E., & Smith-Crowe, K. (2002). General safety performance: A test of a grounded theoretical model. *Personnel Psychology*, *55*(2), 429–457. https://doi.org/10.1111/j.1744-6570.2002.tb00116.x

Camp, W. G. (2001). Formulating and evaluating theoretical frameworks for career and technical education research. *Journal of Vocational Education Research*, *26*, 1–17. https://doi.org/10.5328/JVER26.1.4

Cheyne, A., Cox, S., Oliver, A., & Tomás, J. M. (1998). Modelling safety climate in the prediction of levels of safety activity. *Work and Stress*, *12*(3), 255–271. https://doi.org/10.1080/02678379808256865

Cheyne, A. J. ., & Cox, S. . (2000). Assessing safety culture in offshore environments. *Safety Science*, *34*, 111–129.

Cohen, A. (1977). Factors in successful occupational safety programs. *Journal of Safety Research*, *9*(4), 168–178.

Cox, S., & Flin, R. (1998). Safety culture: Philosopher's stone or man of straw? *Work & Stress*, *12*(3), 189–201. https://doi.org/10.1080/02678379808256861

Coyle, I. R., Sleeman, S. D., & Adams, N. (1995). Safety climate. *Journal of Safety Research*, *26*(4), 247–254. https://doi.org/10.1016/0022-4375(95)00020-Q

D.Langford, S.Rowlinson, E. S. (2002). Safety behaviour and safety management: its influence on the attitudes of workers in the UK construction industry. *Engineering, Construction and Architectural Management*, *07*(02), 133–140. https://doi.org/https://doi.org/10.1108/eb021138

de Kok, J., Deijl, C., & Veldhuis-Van Essen, C. (2013). *Is Small Still Beautiful? TopKopie* (Vol. 20). Retrieved from

Universiti Utara Malaysia

http://www.ncbi.nlm.nih.gov/pubmed/21504798

Dedobbeleer, N., & Béland, F. (1991). A safety climate measure for construction sites. *Journal of Safety Research*. Netherlands: Elsevier Science. https://doi.org/10.1016/0022-4375(91)90017-P

Department of Standards Malaysia. (2011). *Malaysian Standard MS 1722:2011 Occupational safety and health (OSH) management systems - Requirements (First revision).*

Department of Standards Malaysia. (2018). Accredited Certification (updated until Q1 2018). Retrieved from http://www.jsm.gov.my/statistics#.WwT12NSFPcs

Depasquale, J. P., & Geller, E. S. (1999). Critical Success Factors for Behavior-Based Safety: A Study of Twenty Industry-wide Applications. *Journal of Safety Research*, *30*(4), 237–249. https://doi.org/10.1016/S0022-4375(99)00019-5

Díaz-Cabrera, D., Hernández-Fernaud, E., & Isla-Díaz, R. (2007). An evaluation of a new instrument to measure organisational safety culture values and practices. *Accident Analysis and Prevention*, *39*(6), 1202–1211. https://doi.org/10.1016/j.aap.2007.03.005

Eaton, A. E., & Nocerino, T. (2000). The Effectiveness of Health and Safety Committees : Results of a Survey of Public-Sector Workplaces. *Industrial Relations*, *39*(2), 265–290.

F.Hair, J., Black, W. C., Babin, B. J., & Anderson, R. E. (2006). *Multivariate Data Analysis* (7th ed.). Pearson New International Edition. https://doi.org/10.1038/259433b0

Farouk, U. K. (2017). The relationship between management ' s commitment and effective safety and health committees in Malaysia, *39*(2), 204–222. https://doi.org/10.1108/ER-08-2014-0089

Universiti Utara Malaysia

Farouk, U. K., Richardson, S., & Santhapparaj, A. J. S. (2011). Occupational Safety and Health Committees: How Fares the Pulse of the Self-Regulatory System in Malaysian Manufacturing Firms? *International Journal of Trade, Economics and Finance, 2*(5), 412. https://doi.org/http://dx.doi.org/10.7763/IJTEF.2011.V2.141

Federal Constitution (2007).

Fernández-Muñiz, B., Montes-Peón, J. M., & Vázquez-Ordás, C. J. (2007). Safety culture: Analysis of the causal relationships between its key dimensions. *Journal of Safety Research, 38*(6), 627–641. https://doi.org/10.1016/j.jsr.2007.09.001

Fernández-Muñiz, B., Montes-Peón, J. M., & Vázquez-Ordás, C. J. (2009). Relation between occupational safety management and firm performance. *Safety Science, 47*(7), 980–991. https://doi.org/10.1016/j.ssci.2008.10.022

Fernández-Muñiz, B., Montes-Peón, J. M., & Vázquez-Ordás, C. J. (2012). Safety climate in OHSAS 18001-certified organisations: Antecedents and consequences of safety behaviour. *Accident Analysis and Prevention, 45*, 745–758. https://doi.org/10.1016/j.aap.2011.10.002

Flin, R., Mearns, K., O'Connor, P., & Bryden, R. (2000). Measuring safety climate: Identifying the common features. *Safety Science, 34*(1–3), 177–192. https://doi.org/10.1016/S0925-7535(00)00012-6

Furr, A. (2000). *CRC Handbook of Laboratory Safety*. Boca Raton: CRC Press.

Ganesh CS, & Krishnan R. (2016). A Review of Occupational Injury Research In Malaysia. *Med J Malaysia, 71*(1), 100–104. Retrieved from http://www.e-mjm.org/2016/v71s1/occupational-injury-research.pdf

Glendon, A. I., & D.K., L. (2001). Safety climate factors, group di?erences and safety behaviour in road construction. *Safety Science, 39*, 157–188.

Granerud, R. L., & Rocha, R. S. (2011). Organisational learning and continuous

Universiti Utara Malaysia

improvement of health and safety in certified manufacturers. *Safety Science*, *49*(7), 1030–1039. https://doi.org/10.1016/j.ssci.2011.01.009

Griffin, M. A., & Hu, X. (2013). How leaders differentially motivate safety compliance and safety participation : The role of monitoring , inspiring , and learning. *Safety Science*, *60*, 196–202. https://doi.org/10.1016/j.ssci.2013.07.019

Griffin, M. A., & Neal, A. (2000). Perceptions of safety at work: a framework for linking safety climate to safety performance, knowledge, and motivation. *Journal of Occupational Health Psychology*, *5*(3), 347–358. https://doi.org/10.1037/1076-8998.5.3.347

Griffin, M. A., & Neal, A. (2000). Perceptions of safety at work: A framework for linking safety climate to safety performance, knowledge, and motivation. *Journal of Occupational Health Psychology*, *5*(3), 347–358. https://doi.org/10.1037/1076-8998.5.3.347

Griffiths, D. K. (1985). Safety attitudes of management. *Ergonomics*, *28*(1), 61–67. https://doi.org/10.1080/00140138508963112

Hämäläinen, P., Takala, J., & Kiat, T. B. (2017). *Global Estimates of Occupational Accidents and Work-related Illnesses 2017*. *Workplace Safety and Health Institute*. https://doi.org/10.1016/j.ssci.2005.08.017

Harper, A. C., Cordery, J. L., De Klerk, N. H., Sevastos, P., Geelhoed, E., Gunson, C., … Colquhoun, J. (1996). Curtin industrial safety trial: Managerial behavior and program effectiveness. *Safety Science*, *24*(3), 173–179. https://doi.org/10.1016/S0925-7535(96)00077-X

He, A., Xu, S., & Fu, G. (2012). Study on the basic problems of safety culture. *Procedia Engineering*, *43*, 245–249. https://doi.org/10.1016/j.proeng.2012.08.042

Hinze, J., Thurman, S., & Wehle, A. (2013). Leading indicators of construction safety

Universiti Utara Malaysia

performance. *Safety Science*, *51*(1), 23–28. https://doi.org/10.1016/j.ssci.2012.05.016

Hofmann, D. A., Burke, M. J., & Zohar, D. (2017). 100 years of occupational safety research: From basic protections and work analysis to a multilevel view of workplace safety and risk. *The Journal of Applied Psychology*, *102*(3), 375–388. https://doi.org/10.1037/apl0000114

Hofmann, D. A., & Stetzer, A. (1996). A cross-level investigation of factors influencing unsafe behaviors and accidents. *Personnel Psychology*, *49*(2), 307–339. https://doi.org/10.1111/j.1744-6570.1996.tb01802.x

Hon, C. K. H., Chan, A. P. C., & Yam, M. C. H. (2014). Relationships between safety climate and safety performance of building repair, maintenance, minor alteration, and addition (RMAA) works. *Safety Science*, *65*, 10–19. https://doi.org/10.1016/j.ssci.2013.12.012

Hu, X., Griffin, M. A., & Bertuleit, M. (2016). Modelling antecedents of safety compliance: Incorporating theory from the technological acceptance model. *Safety Science*, *87*, 292–298. https://doi.org/10.1016/j.ssci.2015.12.018

Huang, Y.-H., Ho, M., Smith, G. S., & Chen, P. Y. (2006). Safety climate and self-reported injury: assessing the mediating role of employee safety control. *Accident; Analysis and Prevention*, *38*(3), 425–433. https://doi.org/10.1016/j.aap.2005.07.002

I Anuar, F Zahedi , A Kadir, A. . M. (2008). Laboratory-Acquired Injuries in Medical Laboratory: A Survey of Three Referral Medical Laboratories from Year 2001 To 2005. *Journal of Community Health*, *14*(1), 32–38.

ILO. (2001). *Guidelines on occupational safety and health management systems ILO-OSH 2001*.

ILO. (2011). *OSH Management System: A Tool for Continual Improvement*. https://doi.org/ISBN 978-92-2-124740-1

Jilcha, K., & Kitaw, D. (2009). A Literature Review on Global Occupational Safety and Health Practice & Accidents Severity. *International Journal for Quality Research*, *10*(2), 279–310. https://doi.org/10.18421/IJQR10.02-04

Krejcie, R. V, & Morgan, D. W. (1970). Determining and psychological measurement. *Educational and Psychological Measurement*, *30*, 607–610. https://doi.org/10.1177/0013164405285548

Lee, S. woon, Kim, K. hwan, & Kim, T. gu. (2012). Current situation of certification system and future improvements of the occupational health and safety management system for loss prevention in Korea - Focused on KOSHA 18001. *Journal of Loss Prevention in the Process Industries*, *25*(6), 1085–1089. https://doi.org/10.1016/j.jlp.2012.05.012

Lee, T. (1998). Assessment of safety culture at a nuclear reprocessing plant. *Work & Stress*, *12*(3), 217–237. https://doi.org/10.1080/02678379808256863

Levine, D., & Toffel, M. (2010). Quality Management and Job Quality: How the ISO 9001 Standard for Quality Management Systems Affects Employees and Employers. *Management Science*, *56*(6), 978–996. Retrieved from https://econpapers.repec.org/RePEc:inm:ormnsc:v:56:y:2010:i:6:p:978-996

Lo, C. K. Y., Pagell, M., Fan, D., Wiengarten, F., & Yeung, A. C. L. (2014). OHSAS 18001 certification and operating performance: The role of complexity and coupling. *Journal of Operations Management*, *32*(5), 268–280. https://doi.org/10.1016/j.jom.2014.04.004

Lu, C. S., & Yang, C. S. (2011). Safety climate and safety behavior in the passenger ferry context. *Accident Analysis and Prevention*, *43*(1), 329–341.

Universiti Utara Malaysia

https://doi.org/10.1016/j.aap.2010.09.001

Martínez-córcoles, M., Gracia, F., Tomás, I., & Peiró, J. M. (2011). Leadership and employees ' perceived safety behaviours in a nuclear power plant : A structural equation model q. *Safety Science*, *49*(8–9), 1118–1129. https://doi.org/10.1016/j.ssci.2011.03.002

McGonagle, A. K., Childress, N. M., Walsh, B. M., & Bauerle, T. J. (2016). Can Civility Norms Boost Positive Effects of Management Commitment to Safety? *The Journal of Psychology*, *150*(5), 591–605. https://doi.org/10.1080/00223980.2016.1143798

Mearns, K., Whitaker, S. M., & Flin, R. (2003). Safety climate , safety management practice and safety performance in offshore environments, *41*, 641–680. https://doi.org/10.1016/S0925-7535(02)00011-5

Milgate, N., Innes, E., & O'Loughlin, K. (2002). Examining the effectiveness of health and safety committees and representatives: A review. *Work (Reading, Mass.), 19*, 281–290.

Mohammadfam, I., Kamalinia, M., Momeni, M., Golmohammadi, R., Hamidi, Y., & Soltanian, A. (2017). Evaluation of the Quality of Occupational Health and Safety Management Systems Based on Key Performance Indicators in Certified Organizations. *Safety and Health at Work*, *8*(2), 156–161. https://doi.org/10.1016/j.shaw.2016.09.001

Nadhim, E. A., Hon, C., Xia, B., Stewart, I., & Fang, D. (2018). Investigating the Relationships between Safety Climate and Safety Performance Indicators in Retrofitting Works, *18*(2), 110–129.

Occupational Safety and Health Act, Pub. L. No. Act 514 (1994).

Pallant, J. (2007). *SPSS Survival Manual* (3rd ed.). Mc-Graw Hill Education.

Universiti Utara Malaysia

Podgórski, D. (2015). Measuring operational performance of OSH management system - A demonstration of AHP-based selection of leading key performance indicators. *Safety Science, 73*, 146–166. https://doi.org/10.1016/j.ssci.2014.11.018

Robson, L. S., Clarke, J. A., Cullen, K., Bielecky, A., Severin, C., Bigelow, P. L., … Mahood, Q. (2007). The effectiveness of occupational health and safety management system interventions: A systematic review. *Safety Science, 45*(3), 329–353. https://doi.org/10.1016/j.ssci.2006.07.003

Rundmo, T. (1994). Associations between safety and contingency measures and occupational accidents on offshore petroleum platforms. *Scandinavian Journal of Work, Environment & Health*, *20*(2), 128–131.

Santos, G., Barros, S., Mendes, F., & Lopes, N. (2013). The main benefits associated with health and safety management systems certification in Portuguese small and medium enterprises post quality management system certification. *Safety Science, 51*(1), 29–36. https://doi.org/https://doi.org/10.1016/j.ssci.2012.06.014

Sawacha, E., Naoum, S., & Fong, D. (1999). Factors affecting safety performance on construction sites. *International Journal of Project Management*, *17*(5), 309–315. https://doi.org/10.1016/S0263-7863(98)00042-8

Seixas, N., Crollard, A., Neitzel, R., Stover, B., & Dominguez, C. (2013). Intervening at the Bottom: Can a Health and Safety Committee Intervention Influence Management Commitment? *Policy and Practice in Health and Safety*, *11*(1), 61–78. https://doi.org/10.1080/14774003.2013.11667785

Sekaran, U. (2003). *Research Methods for Business: A Skill Building Approach*. *New York, USA: John Wiley & Sons* (4th ed.). https://doi.org/10.1017/CBO9781107415324.004

Shannon, H. S., Walters, V., Lewchuk, W., Richardson, J., Moran, L. A., Haines, T., &

Universiti Utara Malaysia

Verma, D. (1996). Workplace organizational correlates of lost-time accident rates in manufacturing. *American Journal of Industrial Medicine*, *29*(3), 258–268. https://doi.org/10.1002/(SICI)1097-0274(199603)29:3<258::AID-AJIM5>3.0.CO;2-M

Skeepers, N. C., & Mbohwa, C. (2015). A study on the leadership behaviour , safety leadership and safety performance in the construction industry in South Africa. *Procedia Manufacturing*, *4*(Iess), 10–16. https://doi.org/10.1016/j.promfg.2015.11.008

Smith-Crowe, K., Burke, M. J., Chan-Serafin, S., Salvador, R. O., Sonesh, S., & Smith, A. (2011). The dread factor: How hazards and safety training influence learning and performance. *Journal of Applied Psychology*, *96*(1), 46–70. https://doi.org/10.1037/a0021838

Social Security Organisation. (2016). *Annual Report 2016*. Retrieved from https://www.perkeso.gov.my/images/laporan_tahunan/LaporanTahunan2016.pdf

Subramaniam, C., Faridahwati Mohd Shamsudin, Md.Lazim Mohd Zin, Subramaniam Sri Ramalu, & Zuraida Hassan. (2016). Safety Management Practices and Safety Compliance: A Model for SMEs in Malaysia. In *The European Proceedings of Social & Behavioural Sciences* (pp. 856–862). https://doi.org/10.15405/epsbs.2016.08.120

Vecchio-Sadus, A. M. (2007). Enhancing safety culture through communication. *Safety Science Monitor*, *11*(3), 1–10. Retrieved from http://ssmon.chb.kth.se/volumes/vol11/issue3/2 Vecchio.pdf%0Ahttp://ssmon.chb.kth.se/vol11/Issue3/2 Vecchio.pdf

Veloo, A., & Raman, A. (2013). Kaedah Analisis & Interpretasi Data. Sintok:Universiti Utara Malaysia

Vinodkumar, M. N., & Bhasi, M. (2010). Safety management practices and safety behaviour: Assessing the mediating role of safety knowledge and motivation. *Accident Analysis and Prevention*, *42*(6), 2082–2093. https://doi.org/10.1016/j.aap.2010.06.021

Vredenburgh, A. G. (2002). Organizational safety: Which management practices are most effective in reducing employee injury rates? *Journal of Safety Research*, *33*(2), 259–276. https://doi.org/10.1016/S0022-4375(02)00016-6

Wachter, J. K., & Yorio, P. L. (2014). A system of safety management practices and worker engagement for reducing and preventing accidents: An empirical and theoretical investigation. *Accident Analysis and Prevention*, *68*, 117–130. https://doi.org/10.1016/j.aap.2013.07.029

Williamson, A. M., Feyer, A. M., Cairns, D., & Biancotti, D. (1997). The development of a measure of safety climate: The role of safety perceptions and attitudes. *Safety Science*, *25*(1–3), 15–27. https://doi.org/10.1016/S0925-7535(97)00020-9

Wu, T.-C., Liu, C.-W., & Lu, M.-C. (2007). Safety climate in university and college laboratories: Impact of organizational and individual factors. *Journal of Safety Research*, *38*(1), 91–102. https://doi.org/https://doi.org/10.1016/j.jsr.2007.01.003

Yoon, S. J., Lin, H. K., Chen, G., Yi, S., Choi, J., & Rui, Z. (2013). Effect of occupational health and safety management system on work-related accident rate and differences of occupational health and safety management system awareness between managers in South Korea's construction industry. *Safety and Health at Work*, *4*(4), 201–209. https://doi.org/10.1016/j.shaw.2013.10.002

Yule, S., Flin, R., & Murdy, A. (2006). The role of management and safety climate in preventing risk-taking at work. *International Journal of Risk Assessment and Management*, *7*(2), 137. https://doi.org/10.1504/ijram.2007.011727

Universiti Utara Malaysia

Zhang, D., Linderman, K., & Schroeder, R. G. (2012). The moderating role of contextual factors on quality management practices. *Journal of Operations Management*, *30*(1–2), 12–23. https://doi.org/10.1016/j.jom.2011.05.001

Zohar, D. (1980a). Safety climate in industrial organizations: Theoretical and applied implications. *Journal of Applied Psychology*, *65*(1), 96–102. https://doi.org/10.1037/0021-9010.65.1.96

Zohar, D. (1980b). Safety Climate in Industrial Organizations: Theoretical and Applied Implications. *Journal of Applied Psychology*, *65*(1), 96–102. https://doi.org/10.1037/0021-9010.65.1.96

Zubir, B., Saad, F., Maidin, W. F. W., & Jamaludin, M. R. (2016). Safety and Health Awareness among Staff and Students in Workshop and Laboratory of an Engineering Technology University Campus. *International Journal of Engineering Research & Technology (IJERT)*, *5*(03), 285–288.

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APPENDICES

SURVEY QUESTIONNAIRE

SCHOOL OF BUSINESS MANAGEMENT
COLLEGE OF BUSINESS
UNIVERSITI UTARA MALAYSIA

Dear Sir / Madam:

I am pleased to inform you that I am currently conducting a survey entitled **The Relationship between Safety Management Practices and Safety Performance among IIUM Laboratory Staffs**. The study intends to examine the relationship between safety management practices towards safety performance among laboratory staffs in International Islamic University Malaysia Kuantan Campus.

Hence, I would be very grateful if you could answer all of the questions in the survey. The survey should take about 30 minutes to complete. Please answer all questions and return the completed questionnaires promptly.

Please note that your response is private and confidential. Individual respondents will not be identified in any data or reports. If you have any enquires about the survey, kindly contact me at 0129674976 or email to syafinimarzuki@gmail.com.

Thank you very much for considering your involvement, time and cooperation in this survey.

Yours sincerely,
Norsyafini Ahmad Marzuki
School of Business Management
College of Business,
Universiti Utara Malaysia
06010 Sintok,
Kedah

PART I: DEMOGRAPHIC QUESTIONS
Please tick (/) in the appropriate box.

No	Item		
1.	K/C/D/I		Kulliyyah of Medicine (KOM)
			Kulliyyah of Pharmacy (KOP)
			Kulliyyah of Science (KOS)
			Kulliyyah of Allied Health Sciences (KAHS)
2.	Position		Science Officer
			Assistant Science Officer
			Medical Laboratory Technologist
			Attendant
3.	Education Level		SPM
			Diploma
			Degree
			Master
			PHD
			Others:…… (Please specify)
4.	Gender		Male
			Female
5.	Age		18 - 29
			30 - 39
			40- 49
			50 and above
6.	Working Experience		Less than 1 year
			1-5 years
			More Than 6 years
7.	Do you have any history of accidents while working at the workplace		Yes
			No

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PART 2: SAFETY MANAGEMENT PRACTICES
Please tick (/) in the appropriate box to indicate your level of agreement for each statement below.

SCALE	**1** *Strongly Disagree*	**2** *Disagree*	**3** *Neutral*	**4** *Agree*	**5** *Strongly Agree*

Item	**Statement**	**1**	**2**	**3**	**4**	**5**
1.	Safety is given high priority by the management					
2.	Safety rules and procedures are strictly followed by the management					
3.	Corrective action is always taken when the management is told about unsafe practices					
4.	In my workplace managers/supervisors do not show interest in the safety of workers					
5.	Management considers safety to be equally important as production					
6.	Members of the management do not attend safety meetings					

7.	I feel that management is willing to compromise on safety for increasing production					
8.	When near-miss accidents are reported, my management acts quickly to solve the problems					
9.	My Kulliyyah provides sufficient personal protective equipment for the workers					
10.	My Kulliyyah/department gives comprehensive training to the employees on workplace safety and health issues.					
11.	Newly recruits are trained adequately to learn safety rules and procedures.					
12.	Safety issues are given high priority in training programmes.					
13.	I am not adequately trained to respond to emergency situations in my workplace.					
14.	The management encourages the employees to attend Occupational Safety and Health training programmes					
15.	Safety training given to me is adequate to enable to assess hazards in the workplace					
16.	The management always welcomes opinion from employees before making final decisions on safety related matters.					
17.	My Kulliyyah has Safety and Health Committees consisting of representatives from management and employees.					
18.	The management promotes employees involvement in safety related matters					
19.	The management consults with employees regularly about workplace safety and health issues.					
20.	Employees do not sincerely participate in identifying safety problems.					
21.	My Kulliyyah/department does not have a hazard reporting system in which employees can communicate hazard information before hazard occurs.					
22.	The management operates an open door policy on safety and health issues.					
23.	There is sufficient opportunity to discuss and deal with safety and health issues in the meetings.					
24.	The targets and goals for safety performance in my organization are not clear to the employees					
25.	There is an open communication about occupational safety and health issues in the workplace.					
26.	The safety rules and procedures followed in my Kulliyyah/department are sufficient to prevent incidents from occurring.					
27.	The facilities which are provided by the Occupational Safety and Health Committee are not adequate to meet the needs of the organization					
28.	My supervisor and Top Management Officers always try to enforce safe working procedures					
29.	Safety inspections are carried out regularly.					

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30.	The safety procedures and practices in this organization are useful and effective.					
31.	In my Kulliyyah/department, safe conduct is considered as a positive factor for job promotion					
32.	In my Kulliyyah/department, employees are rewarded for reporting safety hazards (thanked, cash or other rewards, recognition in newsletter, etc.).					
33.	In my Kulliyyah/department, Occupational Safety and Health Week celebration and other safety promotional activities arranged by the management are very effective in creating safety awareness among workers.					
34.	There is an existence of very healthy competition among employees to find out and report unsafe conditions and acts.					
35.	My supervisor becomes very unhappy and angry when employees find out and report unsafe conditions and acts in the unit.					

PART 3: SAFETY PERFORMANCE

Please tick (/) in the appropriate box to indicate your level of agreement for each statement below.

SCALE	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree

Item	**Statement**	**1**	**2**	**3**	**4**	**5**
1.	I use all necessary safety equipment to do my job.					
2.	I carry out my work in a safe manner					
3.	I follow correct safety rules and procedures while carrying out my job.					
4.	I ensure the highest levels of safety when I carry out my job.					
5.	Occasionally due to lack of time, I deviate from correct and safe work procedures					
6.	Occasionally due to over familiarity with the job, I deviate from correct and safe work procedures.					
7.	It is not always practical to follow all safety rules and procedures while doing a job.					
8.	I help my co-workers when they are working under risky or hazardous conditions.					
9.	I always point out to the management if any safety related matters are noticed in Kulliyyah/ my work area					
10.	I put extra effort to improve the safety of the workplace.					
11.	I voluntarily carryout tasks or activities that help to improve workplace safety.					
12.	I encourage my co-workers to work safely.					

<THANK YOU FOR YOUR TIME AND PARTICIPATION>